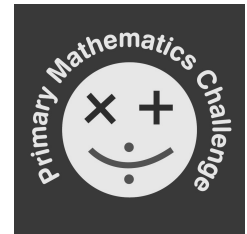


# Primary Mathematics Challenge

12 – 16 November 2018



Name ..... Class .....

Please do not start to answer questions until you are told to do so. When you do turn over the page you will have 45 minutes for the challenge.

You must do all the work on your own. You should use rough paper for this.

For questions 1 – 20, write down A B C D or E in the space for each answer.  
For questions 21 – 25, write down your answer in the space.  
Each correct answer gains one mark.

Good Luck. Enjoy the challenge!

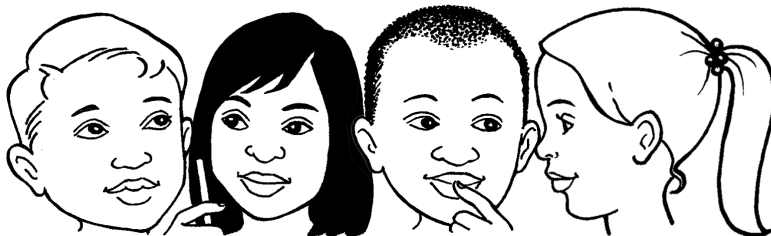
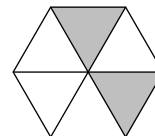
## Practice Questions

P1 Which of the numbers below is a multiple of 5?

- A 51      B 52      C 53      D 54      E 55

P2 What fraction of this hexagon is shaded?

- A  $\frac{1}{3}$       B  $\frac{2}{4}$       C  $\frac{3}{5}$       D  $\frac{4}{7}$       E  $\frac{5}{8}$



Total marks

/ 25

MATHEMATICAL ASSOCIATION



supporting mathematics in education

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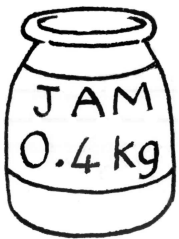
1. Three children went home from a party with four balloons each, and four children went home with three balloons each.

How many balloons is that altogether?

- A 3                      B 4                      C 12                      D 24                      E 36

2. How many grams of jam are there in this full jam jar?

- A 0.4 grams              B 4 grams              C 40 grams  
D 400 grams              E 4000 grams




3. In **one** of the five words below, every letter has rotational symmetry.

Which word?

- A **ONION**              B **BISON**              C **DOZEN**              D **SAXON**              E **CHINO**

4. Historians say that William the Conqueror was born in 1028.

How many years ago was that?

- A 790              B 810              C 910              D 990              E 1010



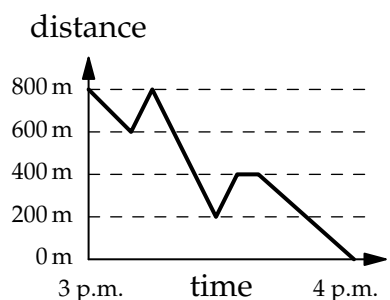

5. Which of these is closest to 201.8 mm in length?

- A the length of a big toe  
B the width of one of the pages of this question paper  
C the height of a door  
D the distance across a sports stadium  
E the width of a small galaxy

6. The graph shows Pat's journey home from his grandfather's house. On the way he had to return his grandfather's cat and later went back to a bench to read his comic.

How far did he walk altogether?

- A 800 m              B 1000 m              C 1200 m  
D 1400 m              E 1600 m



7. A match starts at 7.45 p.m. and has two halves of 45 minutes each. The half-time break lasts for 15 minutes and the referee adds on an extra three minutes at the end of each half.

At what time does the match finish?

- A 8.30 p.m.      B 9.30 p.m.      C 9.21 p.m.      D 9.33 p.m.  
E 9.36 p.m.

8. Michaela meant to work out the answer to  $50.45 - 0.4$  on her calculator, but she made a mistake and got the answer 20.18

Which of these is most likely to have been her mistake?

- A pressing + instead of -  
B pressing 40 instead of 0.4  
C pressing  $\times$  instead of -  
D missing out one of the decimal points  
E pressing  $\div$  instead of -



9. The sum of the first 5 **odd** positive numbers is 25.

What is the sum of the first 5 **even** positive numbers?

- A 30      B 35      C 40      D 45      E 50

10. Mr Fussy wants to buy a new house but he does not want a house with the digit 4 in the door number!

The new houses are numbered 1 to 100

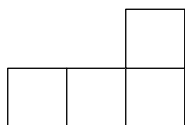
How many houses can Mr Fussy choose from?

- A 19      B 20      C 80      D 81      E 90



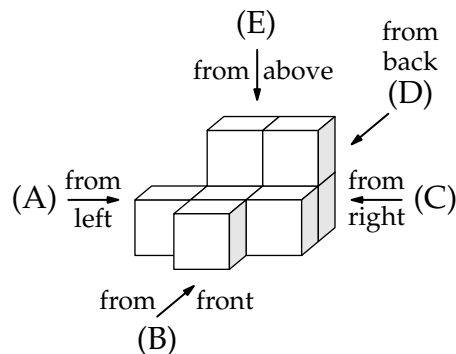

11. Sam is looking at this block of cubes from one of the five directions shown.

He sees the view below:



From which direction is he viewing the block?

- A from the left      B from the front      C from the right  
D from the back      E from above



12. There are roughly three million people who live in Wales.  
 Nearly six hundred thousand of them speak Welsh.

Approximately what percentage of people living in Wales speak Welsh?

- A 10%      B 20%      C 30%      D 40%      E 50%

13. Mo and Jo robbed a bank and stole £100 between them,  
 all in £5 notes.

The amount Mo ran off with was a multiple of £13.

How much money did Jo get away with?

- A £13      B £25      C £35      D £50      E £87




14. Fish fingers are made from a block of cod.

The block is cut into 4 bricks, each brick is then cut into 6 planks and there are 4 fingers in each plank.

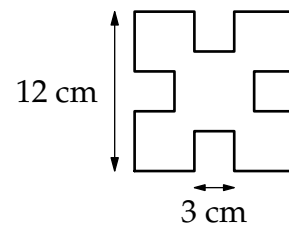
How many fish fingers does each block of cod make?

- A 14      B 16      C 24      D 72      E 96

15. Because she has square false teeth, my wife makes  
 square bites (with sides of 3 cm) when she eats toast.

What area is left after she takes four bites in a square  
 slice of toast that measures 12 cm × 12 cm?

- A 36 cm<sup>2</sup>      B 108 cm<sup>2</sup>      C 132 cm<sup>2</sup>  
 D 140 cm<sup>2</sup>      E 144 cm<sup>2</sup>




16. Teddy buys a cup of coffee and a cake for £3.75, while Freddy buys a cup of  
 coffee and 2 cakes for £6.25.

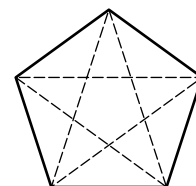
Each cake costs the same. How much is a cup of coffee?

- A £1      B £1.25      C £1.50      D £2      E £2.50

17. The diagram shows a pentagon with its five diagonals  
 drawn in.

How many diagonals can be drawn on a regular hexagon?

- A 8      B 9      C 10      D 11      E 12



18. In the Smellie household, Mum changes her socks every day, Dad every other day, Tammy every three days and Timmy every Wednesday.

At the start of this week, Monday 12 November, Mum, Dad and Tammy all changed their socks.

What is the next date all four of the Smellies will change their socks together?




- A 21 November  
D 6 December

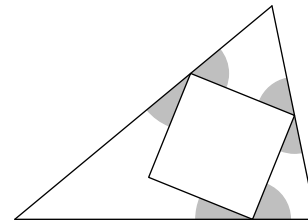
- B 24 November  
E 12 December

- C 28 November

19. The diagram shows a square touching three of the sides of a triangle.

What is the total of the shaded angles?

- A  $90^\circ$       B  $150^\circ$       C  $180^\circ$       D  $270^\circ$   
E  $360^\circ$




20. Paige Turner reads twenty pages every morning and half of whatever is left each evening.

How many days will it take Paige to read a book which has 444 pages?




- A 3 days      B 4 days      C 5 days      D 6 days      E a week

21. Anna thinks of a number, divides it by 5, adds 20 to it and ends up with the number she first thought of.

What was that number?

22. The diagram shows a floor plan of a house. The areas of three of the rooms are shown. Both the bedroom and living room are twice as long as they are wide.

What is the area of the kitchen?

Kitchen	Bedroom $18 \text{ m}^2$
Living Room $32 \text{ m}^2$	Study $20 \text{ m}^2$

23. A *palindrome*, such as 707 or 2552, is a number that remains the same when read backwards.

What is the largest six-digit palindrome which is a multiple of 6?

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24. On a ferry, the total number of cars, bikes and lorries is an even number and is less than 100.

The number of cars is one third more than the number of bikes.

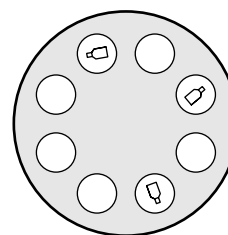
The number of bikes is one quarter more than the number of lorries.

How many cars, bikes and lorries are there on the ferry?

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25. Eight friends are sitting around a circular table at Abbie's birthday party.

Abbie has only 3 party-poppers, so she wants to give them to three of her friends, so that no two friends sitting next to each other both get a party-popper.




How many ways are there in which she can do this?